ABSTRACT

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SYSTEM AND METHOD FOR ENABLING WEAK CONSISTENT STORAGE ADVANTAGE TO A FIRMLY CONSISTENT STORAGE ARCHITECTURE

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       Disclosed is a method of processing instructions in a data processing system. An instruction sequence that includes a memory access instruction is received at a processor in program order. In response to receipt of the memory access instruction a memory access request and a barrier operation are created. The barrier operation is placed on an interconnect after the memory access request is issued to a memory system. After the barrier operation has completed, the memory access request is completed in program order. When the memory access request is a load request, the load request is speculatively issued if a barrier operation is pending. Data returned by the speculatively issued load request is only returned to a register or execution unit of the processor when an acknowledgment is received for the barrier operation.